

STUDIES IN AMERICAN FORFICULIDÆ.

BY JAMES A. G. REHN.

The material treated in the following pages is contained in the collection of the United States National Museum. The privilege of examining this series was secured through the kindness of Mr. William H. Ashmead, Assistant Curator of Insects in that institution.

Family FORFICULIDÆ.

The general arrangement of the species under this family is according to the system used by De Bormans and Krauss.¹ The scheme of classification recently proposed by Verhoeff² has not been considered, as the writer has made no investigations into the characters there brought into prominence.

Genus **PYRAGRA** Serville.1831. *Pyragra* Serville, Ann. Sci. Nat., XXII, p. 34.Type: *P. fuscata* Serville.***Pyragra fuscata*** Serville.1831. *Pyragra fuscata* Serville, Ann. Sci. Nat., XXII, p. 34. [Cayenne.]

One female; San Carlos, Costa Rica. (Schild and Burgdorf.)
[U. S. N. M.]

The use of Dohrn's later name *saussurci* for this species appears unwarranted, as Serville's specific name is based on a description which is fairly complete, and perfectly applicable to this form.

This species has been recorded from localities between south central Mexico (Cordova and Atoyac) and French Guiana.

Genus **ECHINOPSALIS** De Bormans.1893. *Echinopsalis* De Bormans, Biol. Cent.-Amer., Orth., I, p. 2.Type: *E. guttata* De Bormans.

¹ *Das Tierreich*, 11 Lieferung: Forficulidæ und Hemimeridæ, Berlin, 1900.

² *Zoologischer Anzeiger*, XXV, pp. 181-208; and *Sitzungs-Bericht der Gesellschaft naturforschender Freunde*, Berlin, 1902, pp. 7-18.

Echinopsalis brevibractea n. sp.

Type: ♂ (immature); Motzorongo, Vera Cruz, Mexico. January, 1892. (H. Osborn.) [U. S. N. M.]

This form apparently belongs to the genus *Echinopsalis*, though not wholly agreeing with the generic diagnosis. Difference from the generic characters is noticed in the longer third antennal joint, the subtruncate posterior margin of the pronotum, the shorter anal segment and in the longer, more attenuate forceps. No close relationship exists with the only previously known species, *E. guttata* De Bor-mans from Chontales, Nicaragua.

Body of moderate length, considerably depressed; surface subscabrous, covered with short, stiff, mostly erect hairs. Head rather flat, slightly narrower than posterior width of the pronotum, the posterior margin subemarginate centrally; basal joint of the antennæ inverted conoid, shorter than the uniform cylindrical third joint, fourth and succeeding joints (beyond eleventh missing) short and thick, bead-like, broader than long. Pronotum subquadrate; anterior margin broadly rounded, the angles not at all apparent; posterior margin subtruncate; median sulcus well marked and extending the entire length of the pronotum; lateral margins considerably raised. Tegmina and wings only partially developed, but in such condition the former almost equal the pronotum in length. Anal segment moderately deep, over twice as wide as long, very heavily hirsute. Subgenital plate broad, the apex gently rounded. Forceps trigonal in section; rather elongate, parallel and unseparated; the inner margins finely toothed, this being stronger and more apparent basally; apical portion moderately incurved, crossed. Femora rather robust, uncurved; tibiæ moderately slender, not equalling the femora in length. Tarsi moderately compressed, the first and third joints about equal in length.

General color wood-brown, the limbs being mottled with touches of dirty-yellowish.

Measurements.

Total length (approximately),	9.5 mm.
Length of pronotum,	2.5 "
Width of pronotum,	2.5 "
Length of anal segment,	1.5 "
Length of forceps,]	3.5 "

Four specimens, all from the type locality, have been examined. In one of these eighteen joints are present in the antennæ, twenty-two being credited to *E. guttata*; this possibly being true of *brevibractea* in the unbroken antennæ.

Genus **LABIDURA** Leach.

"1815. *Labidura* Leach, Edinburgh Encyc., IX, p. 118."

Labidura bidens (Olivier).

1791. *Forficula bidens* Olivier, Encyc. Méth., Hist. Nat., VI, Pt. II, p. 466. [Jamaica.]

Twelve specimens; six males, two females, four specimens damaged and sex uncertain.

Bermuda. [U. S. N. M.] (damaged).

Cabanas, Cuba. June 2. (Palmer and Riley.) [U. S. N. M.]

Guanajay, Cuba. April 30. (Palmer and Riley.) [U. S. N. M.]

This name has recently³ been revived for the form occurring in the West Indies, Mexico and Colombia. De Bormans and Krauss place it as a synonym of *pallipes* Fabricius, but as Kirby says, the latter name "is usually applied to the dark form of *L. riparia*; the types are lost, and the insect cannot be identified till more specimens are received from its locality, the Cape Verde Islands."

The specimens from Bermuda are badly damaged, and are placed under this name with some uncertainty.

Genus **PSALIS** Serville.

1831. *Psalis* Serville, Ann. Sci. Nat., XXII, p. 34. Included *P. americana* (Palisot) and *P. morbida* Serville.

Psalis americana (Palisot).

1817. *Forficula americana* Palisot, Ins. Rec. en Afr. et Amér., p. 165, Orth., t. 14, fig. 1. [San Domingo.]

Ten specimens; nine males, one female; San Carlos, Costa Rica. (Schild and Burgdorf.) [U. S. N. M.]

This large and striking species has been recorded from localities extending from Chontales, Nicaragua, to western Colombia and Venezuela, and also from Cuba and Haiti.

In the mature specimens (6) in this series a slight variation is noticed in the internal margins of the forceps. In four specimens these are slightly extended basally and distinctly crenulate. In two these parts are straight and with the crenulations hardly visible. The immature specimens (all males) are very interesting and might easily be mistaken for members of the genus *Anisolabis*. Two stages, rather different in general appearance, are represented in the series and are worthy of separate description.

One conclusion reached from a study of these specimens is, that the immature forms possess lateral folds on the abdominal segments which practically disappear by the time the adult stage is reached.

³ *Ann. and Mag. Nat. Hist.*, 7th ser., XI, p. 66, January, 1903.

Size medium (25 mm.); body fusiform; surface rather polished, the abdomen and forceps finely punctate, the whole sparsely beset with stiff bristles, and the abdominal segments fringed with fine hairs. Head considerably broader than the pronotum. Pronotum slightly longer than broad; the anterior margin subtruncate, the posterior rotundate; the median region bearing a shallow sulcation, deepest anteriorly. Meso- and metanotum with the tegmina and wings incompletely developed. Abdomen rather broad, the four anterior segments with the lateral folds but slightly developed. Anal segments large, subquadrate, the posterior constriction being slight; median sulcus slightly developed posteriorly. Forceps of medium length, robust, triangular in section, the right more curved and less hooked than the left, and crossing the latter; internal margins minutely undulate, exhibiting no signs of true teeth. Femora short and robust, the greatest thickness being toward the base. Tibiæ slightly shorter than the femora in the median pair of limbs, equal in the others.

General color blackish-brown; clypeus, labrum, mandibles, tibiæ and tarsal joints dirty yellow (gamboge); femora of the general color with an apical ring of dirty yellow. Antennæ dull-brown with the first, second, thirteenth and fourteenth joints yellow.

Measurements.

	Largest Specimen.	Average of three specimens.
Total length,	25.0 mm.	22.7 mm.
Length of pronotum,	3.2 "	2.8 "
Width of pronotum,	3.0 "	2.6 "
Length of forceps,	4.5 "	3.7 "
Length of anal segment,	3.1 "	2.7 "
Anterior width of anal segment,	5.1 "	4.2 "

The other stage, which represents a lower and more undeveloped type than that described above, is represented in the series by a single specimen.

Size rather small (13.5 mm.); body subfusiform, the greatest width being abdominal; surface moderately polished and with stiff bristles generally distributed, the apical dorsal segments of the abdomen being margined with fine hairs, which are also present on all the ventrals. Head rather elongate, broader than the pronotum. Pronotum about as broad as long, the anterior margin subtruncate, the posterior rotundate; median sulcus distinctly marked. Mesonotum posteriorly truncate; metanotum centrally emarginate. Abdomen broad, each dorsal segment (except the apical three) with the posterior margin

bearing a series of folds or plaits, which are generally disposed in rows of four on each side, these being most numerous anteriorly and vanishing posteriorly. Ventral surface of the abdomen with the segments apically with small nodes, somewhat like the folds of the dorsal surface, but these being very irregularly distributed. Such folds and nodes are, in many cases, set with stiff bristles. Anal segment not very long, rather broad, the surface almost flat; median sulcus very broad and shallow. Forceps of medium length, rather robust, triangular in section, the left exceeding the right in length; internal margins not toothed, almost straight. Femora short and robust; tibiæ rather compressed, heavy, shorter than the femora in the posterior and median pairs, equal in the anterior pair.

General color blackish-brown; labrum, portions of clypeus and mandibles, tibiæ and tarsal joints dirty yellow (gamboge); femora of the general color becoming suffused with yellowish apically; antennæ wood-brown, the apical portion of basal joint washed with dull-yellowish.

Measurements.

Total length,	13.5 mm.
Length of pronotum,	2.0 "
Width of pronotum,	2.0 "
Length of forceps,	3.0 "
Length of anal segment,	1.5 "
Anterior width of anal segment,	2.7 "

***Psalis pulchra* n. sp.**

Type: ♂; San Carlos, Costa Rica. (Schild and Burgdorf.) [U. S. N. M.]

This species is apparently closest allied to *P. americana* and *gagathina*, both of which very considerably surpass it in size, and from which it differs in the more elongate pronotum, the comparatively heavier forceps and different coloration. Relationship appears to exist with *P. rosenbergi* Burr from Ecuador, but *pulchra* may readily be separated by color as well as the non-pilose body.

Body of medium size (for the genus); elongate fusiform; surface moderately polished. Head broader than the pronotum; antennæ 15 to 16-jointed, third joint shorter than the basal, fourth and fifth rather small and rounded, sixth to eighth elongate, increasing in size, ninth to extremity equal to the eighth in size and shape—the apical portion of each segment being enlarged and of considerable greater size than the base. Pronotum longer than broad and slightly constricted posteriorly; anterior margin subtruncate, the posterior roundly produced centrally, lateral margins considerably deflected upward;

median sulcus distinctly marked except at the extreme posterior margin, which is strongly depressed and flattened, a condition also found in the lateral margins. Tegmina of considerable length, reaching to the base of the posterior femora; the anterior shoulders broadly rounded; extremities subtruncate. Exposed portions of the wings about half as long as the tegmina, the posterior and external margins broadly rounded. Abdomen with the lateral margins almost parallel, the basal segments bearing on their margins minute nodes, each of which gives rise to one or more bristles. Anal segment deep, subrectangulate in outline; median line hardly visible; the apical section bearing, between the bases of the branches of the forceps, a transverse depression. Subgenital plate triangular in outline; apex broadly emarginate, and provided with long, soft hairs. Forceps short and heavy, not quite equal to half the exposed abdomen in length, triangular in section basally; apical portion strongly incurved; the right arm longer than, and overlapping, the left, internal right edge finely crenulate, a minute tooth being developed just before the base. Femora moderately heavy, compressed; tibiæ about equal to the femora in length; third tarsal joint shorter than first, the first and second joints heavily haired below, second joint very small.

General color deep mahogany-brown, becoming dirty yellow on the limbs and lower surface of the head and thorax. Pronotum margined laterally with very dull-yellowish. Head reddish-brown. Antennæ with the two basal joints reddish-brown; the tenth, eleventh and part of the twelfth pale-yellowish; remainder of the general tint. Tegmina bearing shoulder spots of straw-yellow. Exposed wings with the basal half straw-yellow.

Measurements.

Total length,	19.5 mm.
Length of pronotum,	2.5 "
Width of pronotum,	2.0 "
Length of tegmina,	4.5 "
Anterior width of anal segment,	3.5 "
Length of anal segment,	2.2 "
Length of forceps,	3.0 "

Genus **ANISOLABIS** Fieber.

1853. *Anisolabis* Fieber, *Lotos*, III, p. 257. Included *A. maritima* and *mæsta*.

Anisolabis annulipes (H. Lucas).

1847. *Forficesila annulipes* H. Lucas, *Ann. Soc. Ent. France*, 2e ser., V, Bull., p. lxxxiv. [Jardin des Plantes, Paris; supposed to have been transported from North America.]

One male; Minatitlan, Vera Cruz, Mexico. February 1, 1892. (H. Osborn.) [U. S. N. M.]

Anisolabis antoni (Dohrn).

1864. *Forcinella Antoni* Dohrn, Entom. Zeitung, Stettin, XXV, p. 289.
[Venezuela.]

Two females:

Mexico. (Dugés.) [U. S. N. M.]

Minatitlan. Vera Cruz, Mexico. February 1, 1892. (H. Osborn.)
[U. S. N. M.]

These specimens measure 15 and 12.5 millimeters in total length.

This species has been recorded from San Luis Potosi, Mexico; Capetillo, Guatemala; Chontales, Nicaragua and Venezuela.

Genus **LABIA** Leach.

"1815. *Labia* Leach, Edinburgh Encyc., IX, p. 118."

Labia guttata Scudder.

1876. *Labia guttata* Scudder, Proc. Boston Soc. Nat. Hist., XVIII, p. 265.
[Texas.]

One female; Orizaba, Vera Cruz, Mexico. January 9-16, 1892. (H. Osborn.) [U. S. N. M.]

This specimen does not wholly agree with Scudder's description, but still seems referable to this species.

Labia flaviscuta n. sp.

Type: ♀; Orizaba, Vera Cruz, Mexico. January 9-16, 1892. (H. Osborn.) [U. S. N. M.]

Apparently allied to *L. arcuata* Scudder, but differing in the elongate pygidium, the shorter exposed portion of the wings, and the predominance of yellow instead of black on the pronotum. From *L. championi* De Bormans, the only other form to which it appears at all allied, it can be immediately separated by the thirteen-jointed antennæ, the shorter exposed portion of the wings, and the narrower pygidium.

Body of very small size (5.5 mm.); greatest width at the apical portion of the abdomen; surface of the head and pronotum moderately polished, abdomen and tegmina dull. Antennæ thirteen-jointed, the fourth and fifth joints much shorter and more bead-like than the apical segments. Pronotum slightly longer than broad; anterior margin very broadly rounded; posterior margin gently rounded; laterals parallel; median sulcus reduced to a slight groove on the posterior half. Tegmina short, not more than one and a half times as long as the pronotum, but slightly extended laterally, the shoulder angles well rounded; apex subtruncate. Exposed portion of the wing very small, apparent only as the extreme tip, and placed next the median suture. Abdomen with well-developed side folds present on two of the median segments. Anal segment and subgenital plate small, transverse, the apical margins

truncate. Pygidium slightly longer than basal breadth, diminishing in width, apex truncate. Forceps simple, unarmed, about equal to half the length of the abdomen; basal halves of the arms subparallel, apical halves bent at an angle and meeting, together forming an acute angle.

General color brownish-black above, reddish-brown below. Pronotum with the anterior two-thirds reddish-orange, posterior third brownish-black. Antennæ wood-brown, with the two apical joints pale-yellowish. Limbs brownish-orange.

Measurements.

Total length,	5.5 mm.
Length of pronotum,	1.0 "
Width of pronotum,	1.0 "
Length of tegmina,	1.2 "
Length of forceps,	1.0 "

Labia rotundata Scudder.

1876. *Labia rotundata* Scudder, Proc. Boston Soc. Nat. Hist., XVIII, p. 263. [Mexico.]

One female; Orizaba, Vera Cruz, Mexico. January 9-16, 1892. (H. Osborn.) [U. S. N. M.]

This specimen exhibits one structural difference from the original description, in that the posterior angles of the pronotum are rather narrowly rounded, instead of "very broadly rounded."

This species has been recorded from Mexico, Guatemala City, Acetyuno and Dueñas, Guatemala.

Genus **SPARATTA** Serville.

1839. *Sparatta* Serville, Orthoptères, p. 51.

Type: *S. pelvimetra* Serville.

Sparatta flavipennula n. sp.

Types: ♂ and ♀; Motzorongo, Vera Cruz, Mexico. January, 1892. (H. Osborn.) [U. S. N. M.]

Apparently allied to *S. pelvimetra* Serville, but differing in the broader and shorter pygidium, the shorter anal segment, the unarmed and sublamellate inner edge of the forceps, and different general coloration. Relationship also appears to exist with *S. pygidiata* and *semirufa* Kirby, but from the former it can be separated by the deeper anal segment, the longer pygidium and strongly toothed forceps; and from *semirufa* by the same characters and the longer points to the forceps.

♂ (not quite mature). Size small; body strongly depressed, broadest in the abdominal region, sparsely clothed with rather long bristles. Head equal to the pronotum in width; antennæ with the first and third

joint subequal, fourth joint subglobose, sixth and succeeding segments (present to eighth) cylindrical, the fifth joint representing a transition between the two types. Pronotum slightly longer than broad; anterior section produced centrally, the antero-lateral angles being obtusely rounded; posterior margin subtruncate; greatest width of the pronotum across the anterior angles; median sulcus very slight. Anal segment transverse, the depth not exceeding one-third the width; posterior margin truncate; median section with a longitudinal sulcation. Pygidium triangular, subconoid, the apex truncate. Forceps about equal to the abdomen in length, parallel; apical regions incurved, meeting, but not lapping; inner margins with a very slight lamellate edge on the basal two-thirds, this edge being crenulate and not dentate. Subgenital plate transverse, slightly emarginate centrally. Femora robust, very heavily developed. Tibia shorter than the femora, bowed.

General color of the upper surface blackish-brown, slightly polished; head, antennæ, forceps and limbs pale reddish-brown, deepest in the color on the limbs. Under surface reddish-brown; the subgenital plate being of the same pale tint as the forceps.

♀. Size medium; body strongly depressed. Head about equal to the pronotum in width; antennæ imperfect. Pronotum longer than broad; anterior portion produced centrally, the antero-lateral angles obtusely rounded; posterior margin and postero-lateral angles broadly rounded; greatest width of pronotum between postero-lateral angles; median sulcus slight, obsolete posteriorly. Tegmina half as long again as the pronotum; lateral margins parallel, the shoulders rounded; apical portion, taken as a unit, rounded. Exposed portions of wings about half as long as the tegmina, rounded. Anal segment transverse, half as long again at anterior margin as deep, contracted, apical portion considerably narrower than basal. Pygidium half as long again as basal width, tapering, apex truncate. Forceps considerably less than the abdomen in length, parallel, apical portion moderately hooked; internal margins being a slight lamellate edge, this edge being present on all but the apical fourth, though subobsolete basally; basal internal section bearing a very distinct tooth. Subgenital plate deep, about half as broad again as long; apical margin very broadly rounded.

General color of the upper surface blackish-brown, slightly polished; antennæ, limbs, anal segment and forceps reddish-brown, deepest in color on the anal segment and forceps; exposed portions of the wings pale-yellowish, lined along the median edges with brown. Under surface reddish-brown.

Measurements.

	♂	♀
Total length,	7.5 mm.	12.0 mm.
Length of pronotum,	1.0 "	1.5 "
Width of pronotum,	1.0 "	1.5 "
Length of anal segment,4 "	1.1 "
Length of forceps,	1.5 "	2.5 "

An additional immature specimen from the type locality was also examined.

Genus **ANCISTROGASTER** Stal.

1855. *Ancistrogaster* Stal, Ofv. Kongl.-Vet. Akad. Förh., XII, p. 349.

Type: *A. luctuosus* Stal.

Ancistrogaster tolteca (Scudder).

1876. *Forficula tolteca* Scudder, Proc. Boston Soc. Nat. Hist., XVIII, p. 261 [Mexico.]

Three males; Orizaba, Vera Cruz, Mexico. January 9-16, 1892. (H. Osborn.) [U. S. N. M.]

Previous records: Orizaba and Atoyac, Mexico, and Coban, Guatemala.

Ancistrogaster gulosa Scudder.

1876. *Ancistrogaster gulosa* Scudder, Proc. Boston Soc. Nat. Hist., XVIII, p. 259. [Puebla, Mexico.]

Fifteen specimens; eight males, seven females; Orizaba, Vera Cruz, Mexico. January 9-16, 1892. (H. Osborn.) [U. S. N. M.]

Genus **OPISTHOCOSMIA** Dohrn.

1865. *Opisthocosmia* Dohrn, Entom. Zeitung, Stettin, XXVI, p. 76.

Type: By selection, *O. centurio* Dohrn.

Opisthocosmia (Sarcinatrix) anomalia n. subg. et sp.

Types: ♂ and ♀; Turrialba and San Carlos, Costa Rica. (Schild and Burgdorf.) [U. S. N. M.]

This form appears to differ from all the other members of the genus *Opisthocosmia*, in the forceps of the male being parallel throughout their entire length. This, as well as the peculiar structure of the subgenital plate, has caused me to create a new subgenus for the reception of the species.

♂. Size medium; form rather slender and graceful; surface polished and furnished with long hairs. Head rather broader than the pronotum; interorbital region tumid and bearing two median longitudinal impressions; eyes prominent, ovate in outline; antennæ with the basal joint elongate, robust, of greatest thickness in the distal portion, second

joint very small, less than one-fifth the length of the first, third and fourth joints of equal length which is about one-third that of basal joint, beyond the fourth joint the segments are subcylindrical, gradually increasing in length, the total number being twelve. Pronotum subequal; anterior margin truncate, lateral margins subparallel, posterior broadly rounded; line of depression crossing the median line posterior to the middle; median line shallowly sulcate in the anterior half, slightly carinate in the posterior half. Tegmina broad, shoulder prominent, narrowly rounded; lateral margins subparallel, apical portion very slightly arcuate. Exposed portion of wings rather elongate, over half as long as the tegmina, apex narrowly rounded. Abdomen tapering; basal segments with the lateral folds well developed. Anal segment transverse, posterior margin truncate. Subgenital plate with the postero-lateral angles each produced into a recurved spiniform process, which flank the lateral base of the forceps; posterior margin roundly emarginate. Forceps parallel, simple, tips overlapping; internal borders strongly crenulo-dentate; surface supplied with long hairs. Femora and tibiæ of subequal length, the anterior femora considerably heavier than the median and posterior pair. Tarsi with the third joint heart-shaped, flattened.

General color wood-brown; the median portion of the pronotum, the margins of the tegmina and exposed portions of the wings, the abdomen, forceps and antennal markings of a darker tint than the remainder of the body which is of a sienna tone. Antennæ with the first, second, tenth, eleventh and twelfth dark, the eighth partially so, while the ninth has the basal portion dark, the remainder being cream-colored.

♀. Size medium, larger than the male; form rather robust. Abdomen expanded, the greatest width being median. Anal segment transverse. Subgenital plate produced subtriangular. Forceps practically the same in structure as those of the male, but more elongate and graceful.

General color as in the male. Antennæ with the basal and apical portions of the first, the second, seventh and eighth joints dark.

Measurements.

	♂	♀
Total length,	8.5 mm.	10.5 mm.
Length of pronotum,	1.1 "	1.5 "
Width of pronotum,	1.0 "	1.2 "
Length of tegmina,	2.0 "	2.7 "
Length of forceps,	1.5 "	2.0 "

One additional female from Turrialba was also examined.

Genus **NEOLOBOPHORA** Scudder.

1875. *Neolobophora* Scudder, Proc. Boston Soc. Nat. Hist., XVII, p. 281.

Type: *N. bogotensis* Scudder.

Neolobophora ruficeps (Burmeister).

1838. *F[orficula] ruficeps* Burmeister, Handb. der Entom., II, p. 755. [Mexico.]

Two specimens; male and female; Orizaba, Vera Cruz, Mexico. January 9-16, 1892. (H. Osborn.) [U. S. N. M.]

The forceps of the female are slenderer than those figured by De Bormans.⁴

Genus **APTERYGIDA** Westwood.

1840. *Apterygida* Westwood, Introd. Class. Ins. Synop. Gen., p. 44.

Type: *Forficula pedestris* Bon.=*albipennis* Meg.

Apterygida linearis (Eschscholtz).

1822. *Forficula linearis* Eschscholtz, Entomographien, I, p. 81. [Sta. Catharina, Brazil.]

Twenty-three specimens; fifteen males, eight females; Orizaba, Vera Cruz, Mexico. January 9-16, 1892. (H. Osborn.) [U. S. N. M.]

El Guama, Cuba, March 6. (Palmer and Riley.) [U. S. N. M.]

Bonito, Province of Pernambuco, Brazil. (A. Koebele, on cotton.) [U. S. N. M.]

Turrialba, Piedras Negras and San Carlos, Costa Rica. (Schild and Burgdorf.) [U. S. N. M.]

This series of males exhibit considerable variation in the structure of the forceps, in some cases these appendages being constricted centrally. The representatives of this sex range in size from 15 to 20 mm. in total length; in the females from 10 to 15 mm.

Apterygida californica (Dohrn).

1865. *F[orficula] californica* Dohrn, Entom. Zeitung, Stettin, XXVI, p. 85. [California.]

Two males:

Orizaba, Vera Cruz, Mexico. January 9-16, 1892. (H. Osborn.) [U. S. N. M.]

Bonito, Province of Pernambuco, Brazil. (A. Koebele, on cotton.) [U. S. N. M.]

While tentatively allowing this form specific rank, I am not at all satisfied that it is more than a mutation of *linearis*, specimens examined being almost intermediate, having the internal tooth reduced to a minimum.

⁴ *Biol. Cent.-Amer.*, Orth., I, Pl. 2, fig. 8.

The specimens above listed are rather smaller than any males in the series of *linearis*, being 14 and 11 mm. in total length.

The previous records for this species are from California, northern Sonora and Teapa, Tabasco, Mexico.

Genus **FORFICULA** Linnæus.

1758. *Forficula* Linnæus, Syst. Nat., X ed., p. 423.

Type: *F. auricularia* Linnæus.

Forficula lugubris Dohrn.

1862. *Forficula lugubris* Dohrn, Entom. Zeitung, Stettin, XXIV, p. 230
[Cordova, Mexico.]

Eleven specimens; four males, seven females; Orizaba, Vera Cruz, Mexico. (H. Osborn.) [U. S. N. M.]

These specimens differ from the original description in their more reddish coloration.

The previous records for this species cover from Durango, Mexico, to Valladolid, Yucatan, and Vera Paz, Guatemala.

Forficula metrica n. sp.

Type: ♂; Orizaba, Vera Cruz, Mexico. January 9-16, 1892. (H. Osborn.) [U. S. N. M.]

Closely allied to *F. lugubris* Dohrn, but differing in the longer forceps, which also bear an elongate low ridge on their internal upper surface, instead of a comparatively high rounded projection as in *lugubris*.

Size medium; form rather robust; surface glabrous, sparsely supplied with short hairs. Head about equal to the pronotum in width; interspace between the eyes rather tumid; antennæ with but six joints present, the basal one moderately robust, the third to sixth of simple form, slightly increasing in length distally. Pronotum slightly broader than long; anterior border truncate, lateral borders slightly arcuate, the posterior subtruncate, the postero-lateral angles very broadly rounded; line of depression but slightly marked and crossing about the middle; median line shallowly sulcate anteriorly, narrowly carinate posteriorly. Elytra of moderate width; shoulder well rounded and not at all prominent; lateral margins parallel; posterior margin subtruncate. Exposed portion of wings half as long as the tegmina, rounded. Abdomen with the median section considerably expanded; two median segments with the lateral folds developed, the posterior the heavier. Anal segment transverse, the posterior margin subarcuate. Subgenital plate broadly triangular, the apex truncate. Forceps almost equal to the remainder of the body in length; the basal fourth parallel, depressed and bearing a lamellate ridge along the internal

margin; apical three-fourths arcuate, unarmed. Pygidium very short, subacuminate. Median and posterior limbs with the femora and tibiæ of subequal length; anterior limbs with the tibiæ distinctly exceeding the femora.

General color dark-brown; antennæ and limbs gamboge-yellow.

Measurements.

Total length,	17.0 mm.
Length of pronotum,	1.7 "
Width of pronotum,	2.0 "
Length of tegmina,	3.0 "
Length of anal segment	1.0 "
Anterior width of of anal segment,	2.0 "
Length of forceps,	7.5 "